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TELECOMMUNICATIONS POLICY,
RESEARCH AND DEVELOPMENT

No. 190



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WORLDWIDE AFFAIRS

BRIEFS

SWEDISH EQUIPMENT TO VENEZUELA, EGYPT--LM Ericsson has gotten a big order--630 million kronor's worth--from Venezuela. The order, which concerns supplying and installing automatic telephone systems of the AXE type, is one of the biggest single orders LME has ever gotten. Practically all of the equipment involved in the order will be manufactured in Sweden, but no new hiring is in prospect. Besides the big order from the telephone administration in Venezuela, LME has gotten an order from Egypt. The order runs to some 180 million kronor and concerns shipments of equipment for manufacture of telephone exchanges and instruments over a 3-year period. LM Ericsson's automatic telephone systems are now to be found in some 30 countries worldwide. [Text] [Stockholm DAGENS NYHETER in Swedish 15 Oct 81 p 24] 8815

KCNA', 'CTK' SIGN AGREEMENT--Pyongyang, 10 Nov (KCNA)--An agreement on the exchange of information and mutual cooperation between the KOREAN CENTRAL NEWS AGENCY and the CTK NEWS AGENCY of Czechoslovakia was signed in Pyongyang on November 9. Present at the signing ceremony on our side were Kim Song-kol, general director of the KOREAN CENTRAL NEWS AGENCY, and personages concerned and on the opposite side were the members of the delegation of the CTK NEWS AGENCY of Czechoslovakia headed by its general director Otakar Svercina and Czechoslovak Ambassador to our country Josef Hadravek. The agreements was signed by General Director Kim Song-kol and General Director of the CTK NEWS AGENCY Otakar Svercina. [Text] [SK092245 Pyongyang KCNA in English 2233 GMT 9 Nov 81]

ITALY, CHINA RADIO-TV AGREEMENT--Italy and China have signed a cooperation agreement in the field of radio and television. The agreement was signed by Italian Radio President Sergio Zavoli and by the chairman of Chinese radio and television. It provides for an exchange of radio and TV programs and delegations and for an examination of the possibilities of coproduction. Zavoli has spoken positively about the agreement, which strengthens the links between the two countries. When the agreement was signed the Chinese expressed their desire to take part, for the first time, in the Italian prize competition in 1982. [Text] [LD090154 Rome Domestic Service in Italian 2300 GMT 7 Nov 81]

CSO: 5500/2040

INTER-ASIAN AFFAIRS

BRIEFS

'VNA', 'BERNAMA' NEWS AGREEMENT--Hanoi, 12 Nov VNA--An agreement on exchange of news reports between VIETNAM NEWS AGENCY and its Malaysian counterpart BERNAMA was signed in Kuala Lumpur on Tuesday with a view to promoting understanding between the two countries. Signatories were VNA's Director-General Dao Tung and BERNAMA's Director-General Ahmad Mustapha Hassan. The signing ceremony was witnessed by Vietnamese Ambassador Vu Bach Mai and BERNAMA's leading officials. [Text] [OW121836 Hanoi VNA in English 1506 GMT 12 Nov 81]

CSO: 5500/2043

PT&T MINISTER OPENS NEW TELEPHONE EXCHANGE

Dacca THE BANGLADESH OBSERVER in English 30 Sep 81 p 12

[Text] Gazipur (Dacca) Sept. 29--A 600-line automatic telephone exchange was inaugurated here today by Mr. A. K. M. Mayeedul Islam Minister for Posts, Telephones and Telegraphs.

Presided over by Mr. M. Habibullah MP the colourful inaugural function was also addressed by Mr. A. B. M. Taher Chairman T and T Board Mr. A. R. Saber and Mr. Abdus Sattar.

Speaking on the occasion the Minister said that eight more telephone exchanges with 200 lines each would be set up in the country during the next year. He said efforts were being made to introduce electronic telephone exchanges in the big cities within the shortest possible time.

Mr. Islam said the whole country would be brought under nationwide dialing system within 1983. About the T and T Staff College at Joydevpur the Minister said it would be completed on schedule. Students from both home and abroad would receive training here, he said.

The Minister said the Gazipur telephone exchange was a commitment made by the Acting President Justice A. Sattar when he was Vice-President. He said arrangement would be made to convert the Gazipur exchange into STD system within a couple of years.

He expressed his thanks to the workers and officials of T & T Telephone Shilpa Sangstha (TSS) and Cable Shilpa Sangstha for their wholehearted support and hard work for the new exchange at Gazipur.

CSO: 5500/7017

INDIA AIDS THIRD WORLD IN COMMUNICATIONS PROJECTS

Bombay THE TIMES OF INDIA in English 28 Sep 81 p 11

[Text] New Delhi, September 27--The expanding communications infrastructure in vast parts of the developing world increasingly bears the stamp of Indian expertise.

Across the Gulf, in West Asia, in West Africa and in East Africa, Telecommunications Consultants India Ltd. (TCIL) is providing consultancy services for the installation, operation and maintenance of the latest telecommunications systems.

In just two years after its establishment, this public undertaking has its order book full, with Rs. 21 crores worth of contracts which will result in a net inflow of 60 per cent of the amount in foreign exchange.

Enriched by this experience and expertise in working in different countries, TCIL is now venturing into more competitive markets in Latin America and South-East Asia.

Mr. M. P. Shukla, chairman of TCIL, told newsmen here that in the last two years the company had won 37 contracts in global tenders worth Rs. 27 crores. This increased the turnover five-fold in a single year to reach Rs. 7.87 crores, fetching a profit of Rs. 1.2 crores. A dividend of 10 per cent accruing to the national exchequer on a paid-up equity capital of Rs. 20 lakhs is proposed to be declared.

Ex-Gratia Payment

He also announced a 10 per cent ex-gratia payment to employees drawing Rs. 1,600 and less a month.

TCIL has been engaged by the Yemen Arab Republic to set up an underground cable plant in five towns, install 40,000 telephone connections and organise a subscriber relations cell.

In Nigeria, TCIL trains technicians and is consultant for maintenance and operation of telecom services. About 400 Nigerians are to come here for advanced training.

Kenya, Mozambique, Zimbabwe and Libya are among the countries with whom negotiations are in progress. In Kuwait, TCIL outbid some of the world's biggest firms in the field of electronics to provide consultancy services for the installation and maintenance of electronic private automatic exchanges. The contract is worth Rs. 1 crore.

Consultancy Services

In Oman, TCIL is providing consultancy services for the installation, operation and maintenance of telephone exchanges and laying of transmission lines.

The public undertaking has not concentrated all its operations abroad. With its staff mostly professional engineers of various disciplines, the company has undertaken contracts at home too, for pipeline communications in oil exploration, coal fields, hydro-electric power projects and the hotel industry in the public sector.

According to Mr. Shukla, new marketing strategies are under study on the basis of reports submitted by teams sent to African, South-East Asian and Latin American countries.

To enable its engineers to keep abreast of the latest advances in communications technology, TCIL would send abroad some of them for training in computerised systems.

CSO: 5500/7011

INFORMATION MINISTER HOLDS PRESS CONFERENCE

Benefits of Satellite

Bombay THE TIMES OF INDIA in English 26 Sep 81 p 5

[Text] New Delhi, September 25--INSAT, the first Indian communications satellite, will provide TV service during its seven years in orbit from next year to 15,300 electrified villages in six states covering a total of 18 districts.

Entailing a capital expenditure of Rs. 69 crores, the seven-year programme will extend TV service to three districts in each state.

Announcing this at a press conference today, Mr. Vasant Sathe, information and broadcasting minister, said that the INSAT TV programmes would be entirely rural-oriented, different from those shown in cities, except for nationally-important items which would be telecast from all TV stations.

INSAT would be used to link all TV centres. The centres would be linked by microwave transmission facilities and up-linking facilities would be provided at the Delhi and Shillong earth stations. There would be one transportable earth station with TV capability.

Satellite relay receivers would be installed at all TV transmitting centres for receiving and relaying the common national programmes as well as news and sports events. A network of relay stations would be set up for transmitting up to a radius of 100 km.

The normal daily INSAT TV programmes would be predominantly educative and functional: how to raise farm productivity, participation in extension activities, focus on public health and family welfare programmes, promotion of social justice and scientific temper and sports and games.

The programmes would be of one-hour duration in the evening. There would be a 45-minute educational service in the morning. For the preparation of programmes, new programme production centres equipped with field equipment would be set up at Kurnool, Sambalpur, Ranchi, Rajkot, Nagpur and Gorakhpur.

Up-link facilities would be provided at each of these centres for feeding the satellite. Expansion of production facilities in Hyderabad and Cuttack would be given priority.

Color Television Plans

Bombay THE TIMES OF INDIA in English 26 Sep 81 p 5

[Text] New Delhi, September 25--A switch-on to colour TV may be accomplished before the Asiad in November next year.

Mr. Vasant Sathe, information and broadcasting minister, held out this hope to newsmen this evening. It all depended on whether the Union cabinet approved the proposal next month.

Currently a study group--the fifth set up so far to go into this question--was investigating the "colour compatibility" of the project. Its recommendations would be submitted next month.

TV manufacturers were of the view that the demand for colour TV sets would be much more than what had been estimated by the working groups, he said.

Three powerful outdoor broadcasting vans were being imported for transmission of the Asiad events. Later, these would be placed at the disposal of the Amritsar-Jullundur TV link and the Calcutta TV centre for use in the border areas.

CSO: 5500/7009

NEW SATELLITE TO HELP DISASTER WARNING SYSTEM

New Delhi PATRIOT in English 30 Sep 81 p 5

[Text]

The disaster warning system of the Meteorological Department will become perfect and more rapid when it starts using the Indian National Satellite (INSAT) scheduled for launch in April next year, reports UNI.

The department will be ready by February next with all the ground equipment necessary for utilising the meteorological payloads to be provided by the satellite.

According to Director-General Meteorology P K Das, the satellite will ensure that the department is not hampered by atmospheric conditions or break-down in telecommunications in disseminating the warning in time.

The department is spending about Rs 19 crore in setting up a Meteorological Data Utilisation Centre in New Delhi, 110 data collection platforms in land and sea all over the country, for installation of 100 disaster warning sets in the coastal districts and other facilities.

Dr Das said the satellite would provide pictures of cloud to the experts every half hour for analysis. At present the department is getting such pictures twice a day from the polar orbiting satellite.

The Centre at Delhi is for processing the data received via INSAT. The US is building the equipment required for the purpose.

Next year another important weather project is to be undertaken by the department in collaboration with Indian Space Research.

CSO: 5500/7012

PLANS FOR ELECTRONIC TELEPHONE EXCHANGES TOLD

Bombay THE TIMES OF INDIA in English 1 Oct 81 p 5

[Text] New Delhi, September 30--Global tenders have been invited for electronic exchanges of varying capacity in pursuance of the P and T's perspective plan to turn the telephone system electronical.

Much of the requirements in the coming few years will be met by imports.

The communications minister, Mr. C. M. Stephen, informed the parliamentary consultative committee for his ministry today that orders had already been placed for the import of 15,000 lines of electronic trunk automatic exchange to be installed in Bombay, Calcutta, Delhi and Madras.

Similarly, 30,000 lines of local electronic exchange are being imported for installation in Bombay, Calcutta and Delhi.

Besides, tenders have been invited for the supply of 60,000 lines of small electronic exchanges of 200-600 lines capacity and for an additional 60,000 lines of medium size exchanges in the 2000-4000 line capacity range.

Also to be bought abroad are electronic private automatic branch exchanges (PABX) for use during the Asian games.

In addition, to fulfill long-term requirements, the government has decided to set up two electronic switching system factories, with a capacity of 500,000 lines each at locations yet undetermined, with imported technology.

CSO: 5500/7014

BRIEFS

NEW PHONE TARGET--All telephone demands as on 31 March 1982 will now be met by 1985 under a new target announced by Communications Minister C. M. Stephen on Friday, reports PTI. To keep the three-year rule for the wait-listed persons, Government has given up dependence on domestic production and is going in for increased imports of 6.64 lakh of switching equipment, nearly half of them electronic, Mr Stephen told newsmen. He envisaged "telephone on demand" by 1990. He also said the trunk automatic exchanges were being put up in metropolitan areas, transmission lines were being expanded by 50 per cent of their capacity and during the current year itself some two lakh new connections were planned. [Text] [New Delhi PATRIOT in English 26 Sep 81 p 7]

MORE TELEPHONE PLANS--Madras, Sept 29 (PTI)--The new push-button telephone, which reduces dialling fatigue and has greater reliability, is to be in the market by 1983. The Executive Director of the Indian Telephone Industries Mr C. R. Gupta Bangalore complex, told a party of visiting newsmen last week that about 200 pieces of the new model, which has the advantage of speed, were on field trial throughout the country. He also showed newsmen a model of the "671 telephone", which he dropped on the ground to prove it was unbreakable. Mr Gupta said the centre had approved a project for manufacture of 200,000 lines per year of the indigenously developed crossbar switching equipment at Rae Bareli at a cost of Rs 64.5 crore. Full rated production would be achieved within six years. Another project for the manufacture of digital trunk automatic switching exchanges, digital rural switching exchanges and digital private automatic branch exchanges, totalling about 150,000 lines per year at Palghat had also been approved. [Text] [New Delhi PATRIOT in English 30 Sep 81 p 5]

OVERSEAS COMMUNICATIONS CHIEF--Bombay, September 30--Mr. K. C. Katiyar, additional director-general of Overseas Communications Service, will take over from tomorrow as the director general. He succeeds Mr. M. S. Nagarajan, who is retiring. Since joining the O.C.S. in 1958, Mr. Katiyar has been actively associated in the planning of modern international telecommunication techniques and in the progress of research and development in the department. He is an M.Sc. in Physics from Agra University and holds an engineering degree in electronics and telecommunications from the Technical University, Stuttgart. [Text] [Bombay THE TIMES OF INDIA in English 1 Oct 81 p 7]

REMOTE SENSING SATELLITE--Bangalore, Oct 1 (UNI)--An Indian Remote Sensing Satellite (IRS) is being actively planned for operation in the latter half of the 1980s. With Indian needs in mind, the IRS system will attempt to address Indian

resources management requirements with emphasis on agriculture, water management, forestry, certain aspects of mineral geology and petroleum exploration. Discussions were held during the past two years among potential users and more would be held to define the design parameters of the space segment. According to a national paper of India for the Second United Nations Conference on Exploration and Peaceful Uses of Outer Space scheduled for 1982. [Text] [New Delhi PATRIOT in English 2 Oct 81 p 5]

CSO: 5500/7016

PREPARATION FOR LAUNCHING OF PALAPA SATELLITES

Jakarta HARIAN UMUM AB in Indonesian 16 Sep 81 pp 1, 7

[Article: "Satellites B1 and B2 Are To Be Launched in February 1983; Production Costs Total \$150 Million"]

[Excerpt] Built at a cost of \$150 million, Palapa B1 and B2 satellites, which will replace Palapa A whose working life has expired, will be launched in February and June 1983, respectively, from Cape Canaveral/Kennedy in the United States.

When queried by a member of Parliamentary Commission V in Jakarta yesterday [15 September], Willy Munandir, executive director of PERUMTEL [Telecommunications Corporation] added that the \$150 million consisted of a loan from the U.S. Export-Import Bank and is being used to pay for the construction of the satellites, their launch, and insurance.

Munandir did not specify which insurance company was used to cover the possible loss of these satellites.

It has not yet been determined whether the space transportation system (STS) or the space shuttle, still being tested, will be used to launch the communication satellites.

Palapa B has 24 transponders or twice as many as Palapa A. Therefore various preparations are underway to make better use of Palapa B, including adding a system for a digital communication channel as well as a satellite guidance system.

To ensure that far flung areas of the homeland are equally served, a number of communications facilities will be built throughout the archipelago, in particular, those serving remote areas which to date have not had any long distance communication links.

It is expected that new earth stations will be built in 72 cities prior to May 1982. In Aceh they will be built in Takengon, Meulaboh, Sinabang, Tapaktuan, Kutacane Singkil, and Flangpidie. Others will be built in Bagansiapiapi, Tanjung Bahu, Ranai, Bengkalis, Tempilahan, Rengat, and Dobo Singkep (Riau); in Muara Singmep and Piaanan (West Sumatra); in Sungai Penuh, Muara Bungo, and Kuala Tungkal (Jambi); in Sekayu and Tanjung Pandan (South Sumatra); in Bintuhan, Manna, and Argomakmur (Bengkulu) and in Krui, Lampung.

In addition six units will be built in East Nusatenggara, 15 in West Kalimantan, one in South Kalimantan, three in East Kalimantan, two in Southeast Sulawesi, two in Central Sulawesi, two in North Sulawesi, six in Maluku, and five in Irian Jaya.

Construction of small ground stations in remote areas, Munandir said, is also intended as a preparation for a down-to-the-village telephone system program, felt to be greatly needed.

New telephone centrals will be built in each of the 72 regency cities and in other cities.

Also to be established are 1,000 new long distance telephone links at 20 sites, each with 50 connecting units. The 20 sites are Kutacane, Prapat, Pandang, Bagan-siapiapi, Pulau Batam, Dobo Singkep, Palembang, Kuala Tungkal, Jakarta, Bandung, Yogyakarta, Singkawang, Sampit, Balikpapan, Banjarmasin, Uungpandang, Watampone, Palopo, Kolaka, and Denpasar.

In addition to the construction of these telecommunication facilities, workers housing as well as office buildings are being built at a cost of 73 billion rupiah, allocated from domestic resources. However Munadir did not specify the source of these funds. He avoided mentioning that they were national budget funds by saying, "...we are not a company...."

Construction of the Palapa B1 satellite is scheduled for completion by August and for B2 by November 1982.

Palapa B1 will be taken to Cape Canaveral in December 1982 while Palapa B2 will be delivered in March 1983. Palapa B1 will be launched in February and B2 in June of 1983.

Responding to a question from a member of Commission V, Munandir explained that the 24 transponders, each of which can serve 400 telephone voice channels or one TV channel, will be used for domestic and ASEAN [Association of Southeast Asian Nations] purposes.

He clarified that out of the 22 responders, nine are to be used by PERUMTEL, two by TVRI, one by HANKAM [Department of Defense and Security]. For ASEAN nations, 3.5 have been allocated to the Philippines, three to Thailand, 1.5 to Malaysia, and one to ASEAN TV programs. One of the remaining responders is to be set aside for possible ad hoc use while the other two are set aside as reserves in case of a breakdown in a responder.

6804
CSO: 5500/8501

BRIEFS

MARITIME SATELLITE SYSTEM--Tokyo, 17 Nov (AFP)--A new maritime telecommunications satellite system will be inaugurated in February next year for expanded ship-to-shore telephone and telex services, it was revealed here today. Kokusai Denshin Denwa Co. (KDD), Japan's international telecommunications monopoly, said the new system, INMARSAT (International Maritime Satellite Organization) based in London, will replace the present MARISAT (Maritime Communications Satellite) System. It will use MARISAT and INTELSAT satellites now in service plus a new satellite to be launched by the European Space Agency (ESA) in April next year. At present, a total of 852 ships of 39 nations, including the Soviet Union, are utilizing the maritime telephone service. Of them, Japanese vessels account for about 150. KDD said the number of vessels participating in INMARSAT is expected to reach 5,000 in 1985.
[Text] [OW170213 Hong Kong AFP in English 0136 GMT 17 Nov 81]

CSO: 5500/2043

MALAYSIA

BRIEFS

NEW SATELLITE GROUND STATION--Datuk Musa Hitam and Indonesian Vice President Tun Adam Malik today exchanged ideas on the positive role of ASEAN and its contribution to international politics, such as the Kampuchean and Afghanistan issues. In a telephone conversation the two leaders said the ASEAN spirit was well known in the international political arena as well as its contribution to the economic and political stability of the region. The conversation, which lasted about 10 minutes, was held after the opening of the earth satellite station at (Lundu) at Melaka today. The deputy prime minister opened the 18.5 million reinggit station which now links Malaysia with another nine countries. Earlier in his speech Datuk Musa Hitam said various developments in the field of communications had made Malaysia a gateway in the region. [Text] [BK151040 Kuala Lumpur International Service in English 0800 GMT 15 Nov 81]

CSO: 5500/2043

PUNJAB TOWN TO BE LINKED TO DIRECT INTERNATIONAL DIALING

Karachi DAWN in English 4 Nov 81 p 4

[Text]

FAISALABAD, Nov 3: Direct international dialing facilities would be provided to Faisalabad telephone subscribers by the end of January next, Mr Daud Siddiqui, General Manager, T and T Department, Central Region, Lahore, said.

Talking to newsmen here recently he said that separate machinery for the operation of this system was being erected in Faisalabad.

The international direct dialing system, he said, was successfully running in Karachi, Islamabad and Lahore, and hoped that in Faisalabad too this system would get popularity.

Mr Daud Siddiqui said that the airport of Faisalabad, Lahore and Multan, located in the central region of T and T Department have been provided telephone booths

where facilities of local, trunk and foreign calls were available.

He said that Toba Tek Singh town of Faisalabad District would be provided with teleprinter service before end of the current fiscal year.

In reply to a question Mr Daud Siddiqui said that in order to minimise the telephone faults in Faisalabad urgent steps would be taken. He said that the T and T Department sanctioned 600 new telephone connections at Faisalabad in June last out of which 400 telephones have been installed and remaining 200 would be installed by the end of December next after easing the shortage of drawwire. He said that owing to commissioning of the People's Colony and Sargodha Road exchanges the daily fault complaints of telephones was reduced from 800 to 300.

CSO: 5500/4512

OFFICIAL ON EFFICIENT TELECOM LINKS IN SOUTH ASIA REGION

Lahore THE PAKISTAN TIMES in English 3 Nov 81 p 10

[Text]

ISLAMABAD Nov. 2: Pakistan feels that the time has come to establish efficient and reliable telecommunication links among the regional countries which will not only bring groups constituted by Colombo closer together and facilitate our respective development programmes but would be a singular contribution to the promotion of regional co-operation.

This was stated by the Foreign Secretary Riaz Piracha while addressing the Foreign Secretaries meeting at Kathmandu today according to a message received here.

The study group on telecommunication coordinated by Pakistan has recommended integrated and accelerated development of existing and projected bilateral and multilateral arrangements. It has proposed a regular exchange of technical information for the development of internal telecommunication links. It envisages accelerated exchange of information and expertise for the development of appropriate technology, common train-

ing, namely, telecommunication, meteorology, agriculture, rural development and health and promotion activities. Mr Piracha said "recommendations are before us on five very important areas of co-operation. We would now decide on the manner and extent of implementation of those recommendations so that regional co-operation becomes a reality".

The Foreign Secretary expressed the feeling that it would be appropriate to continue meetings at this level from time to time to review the progress of regional co-operation and to take policy decisions on the future course of action. He said "we do not rule out a regional meeting at the ministerial level in due course when the conditions are ripe and with adequate preparation, but this is not the stage to recommend such a meeting".—APP.

CSO: 5500/4512

MICROWAVE TELECOMMUNICATIONS SYSTEM FOR RAILWAY PROGRESS

Islamabad THE MUSLIM in English 1 Nov 81 p 6

[Text]

LAHORE, Oct. 31: The work on micro wave telecommunication system being installed by Pakistan Railways at a cost of Rs. 723.3 million including a foreign exchange component of Rs.387.7 million is going on in full swing and the project is expected to be completed by the end of next year. The system is being installed with the aid of World Bank.

The construction of first micro wave station has been started at Kamonki where work is in progress.

This station will be a model station for comparison of quality and workmanship. The work on the other sites is expected to start soon.

The detailed route survey has been carried out to find the exact location sites number of towers and quantity of equipment required.

In all, 44 micro wave stations will be built on the main line of Pakistan Railways and V.H.F. stations built on seven stations.

The Very High Frequency service shall be provided to the stations on the main line and important branch line from Karachi to Rawalpindi.

Electronic telephone switching system would also be provided for direct dialing facility between the various stations and offices for a running flow line of trains.—PP

CSO: 5500/4513

EXPERIMENTAL APPLICATION OF E-10 SYSTEM OF AUTOMATION OF NODAL TELEPHONE NETWORK IN
CZECHOSLOVAKIA

Warsaw PRZEGLAD TELEKOMUNIKACYJNY in Polish, No 04, 1981 pp 99-102

[Article by Vladimir Vopalensky]

[Text] Progress in switching technology has caused a gradual shift from conventional systems of crossbar switches controlled by relay (second generation) to the systems with program control (SPC). In the last decade, digital circuitry technology has also spread to the transmission line and has been used together with PCM [pulse-code modulation] systems to introduce systems with digital channel switching. This serves as a basis for the introduction of integrated switching and relay systems, enabling the design of networks on an absolutely new foundation. Such a network is more efficient in the implementation and provides a better quality of service for both the subscribers and the management. Due to the above considerations, it has been decided in Czechoslovakia to study the properties of such integrated systems. The goals were to obtain information on the design, installation and programming of integrated systems, and also on their practical operation, with regard to the qualifications of personnel and the configuration of the network, and finally to the development of assets in order to compare the economic performance of such systems to that of the second generation system.

To accomplish this, two conditions had to be met.

A readily available, commercially produced system should have been used that could be introduced in the future by the Czechoslovak state network in case the tests were positive. This is why the E-10 [cited is electronic telephone exchange] system produced by the TELKOM-TELETRA enterprise in Poznan under the licence of the French concern CIT-Alcatel has been selected.

The exact localization and scope of the experiment had to be determined. This is not to denote the development of a model network, but such a setup of the network that enabled its construction entirely on the basis of an integrated E-10 system.

The goal of the experiment was to study the feasibility of integrated technology under complicated network conditions, the adaptation opportunities of programmed control equipment and the assessment of the influence of this technology on the configuration of the network.

Choice of Location for the Experimental Nodal Network.

While selecting the location, both the operational and the economic viewpoints were given consideration. It was assumed from the very beginning that equipment of such a scope and so costly could not be used solely to test the feasibility and performance of an integrated system. Upon the completion of the experiment, the entire network would have to maintain regular operation. The experience gained would facilitate the regular introduction of E-10 system in large areas.

In order to study the technical performance of the integrated system and the influence of its peculiar technology on the organizational structure of operation and maintenance, it was necessary to select a localization which would perceptibly emphasize all the characteristics of the system. These considerations led to the following basic prerequisites for the selection of localization for the experimental network.

- 1) The network must be hooked on to all systems used in the Czechoslovak network, especially the ones which are to be used in the future.
- 2) The network must cover an area integrated both from the network and the administrative point of view.
- 3) The network must test the performance of the system at the level of a local network as well as a long-distance network, and also test it from the point of view of setting up of common subscriber groups (CENTREX).

This led to a decision to stage the experiment in a nodal network and not in a city, as it had been done, for example, in Poland. The nodal network in Czechoslovakia connects the long-distance and local networks. They are organizationally autonomous areas with unified control of telecommunications traffic. They coincide with the administrative division of the country. The networks cover an area with a radius of 20 to 25 kilometers and comprise several local telephone areas. Calls completed within their limits are counted as single units regardless of duration, whereas calls completed between different local networks are subject to multiplex counting.

Numbering within the nodal network includes the numbers of local networks or of special services. From the point of view of the long-distance network, the nodal network is a single unit and has one common area code.

Also to be taken into consideration were the conditions ensuing from the traffic requirements and from the necessity to obtain a maximum of information enabling the conclusions for further prognostic studies, primarily in the field of applying the integrated system in local networks and at higher network levels, in long-distance exchanges.

Consequently, the following requirements were established:

- 1) an average nodal network should be selected, specifically, as to the area, configuration and the attained telephone traffic density,
- 2) there should be a direct link with the existing long-distance exchange in Prague (system AKE 13) and another exchange of the ARM 20 system.

3) a location with existing cable network in good enough condition, mechanically and electrically sound, should be found in order to facilitate the conversion of the cables to PCM operation.

4) in order to reduce costs, a nodal network with obsolete equipment slated for replacement should be selected.

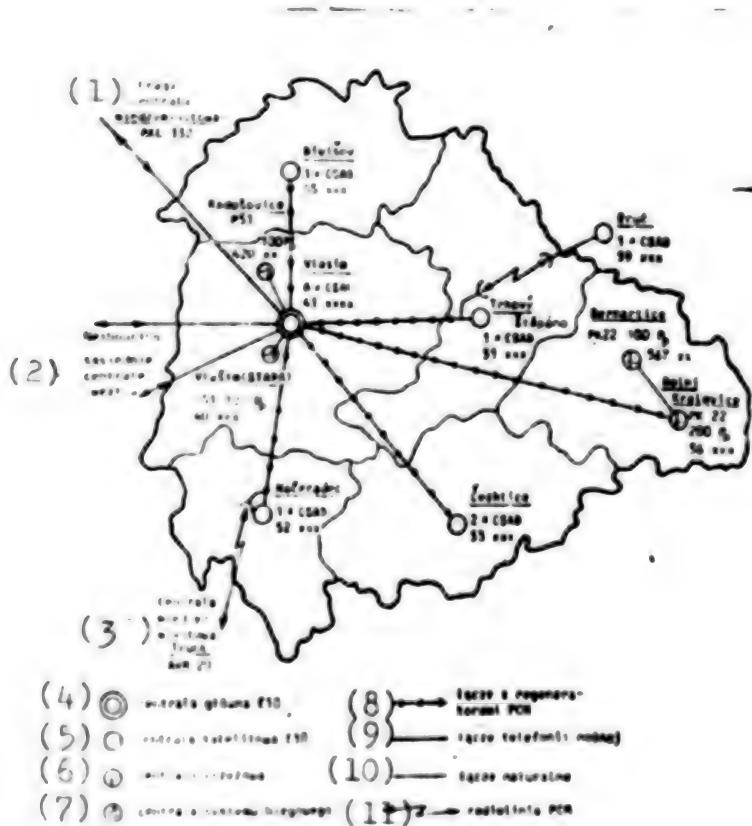


Figure 1. Plan of the Experimental E-10 Network in the Area of the Vlasim node.

1. Prague long-distance exchange.
2. adjacent nodal exchanges.
3. long-distance exchange.
4. main E-10 exchange.
5. satellite E-10 exchange.
6. crossbar exchange.
7. running system exchange.
8. links with PCM processing amplifiers.
9. links with carrier telephony.
10. natural links.
11. PCM radio links.

Having considered all the requirements, the Vlasim node comprising six local phone networks has been selected. At a higher level of the network the node is connected to the long-distance exchange in Prague.

The setting-up and application of the E-10 system was started by the installation in the center of the network of the main E-10 exchange with digital switching field and the installation in local centers of peripheral networks of particular satellite exchanges in the form of remote subscriber end offices CSAD (expansion unknown).

Connections between them are provided by the channels of PCM links. The general plan of the network is shown on figure 1, whereas the block diagram on figure 2. To ascertain the possibility of interchange with crossbar exchanges produced in Czechoslovakia, one local network with the PK22 system was built, whereas the interchange with the conventional running P51 system was tested by two exchanges of this kind, each serving 100 subscribers. Total capacity of the network is 6,500 numbers, out of which 3,000 in the center, 3,000 in satellite exchanges combined and the remaining 500 using first and second generation equipment as before.

Integration of the nodal Vlasim network with the long-distance network is shown in figure 3. The network is connected with the long-distance and international exchange of higher CT2 in Prague of the AKE 13 type and another long-distance exchange of the ARM 20 type; code MFCR 2 was used for signalization.

Besides, there are connections with adjacent nodal networks employing the P51 running system. These links make use of carrier telephone systems and long-distance 50 Hz switching devices. All these links use pulse signalization and decimal switching.

The PCM system is used in connections within the experimental nodal network, that is the connections between the switching center and the satellite exchanges. This system employs modified DM type cables with star-quads. Consequently, frequency 1024 kHz could not be used to measure short distance crosstalk while switching star quads, as usually is the case in local networks. This was so because the attenuation of crosstalk strongly depends on frequency. Due to this, a method of wide-band measurement of short-distance cross-talk attenuation studying the energy of the cross talk spectrum was elaborated.

Theoretical values were determined which could later be attained in practice. This method brings fast results in the field while the pairs selected in this manner are entirely satisfactory for PCM traffic.

One of the satellite exchanges was linked to the central exchange by the 11AP 32 device modified to carry digital signals in order to study the possibilities of the system with the introduction of a radio link produced in Czechoslovakia. Also, connections with another long-distance exchange were partially carried through that line. This necessitated a conversion of PCM code HDB3 to AMI code. Such a measure will facilitate the studies aimed at the verification of all standard signalling devices and basic functions required in long-distance networks, including new overflow traffic control and rate schedules.

Experience Gained During the Installation and Operation.

A contract for the delivery of the E10 system equipment was signed in June 1977. In November 1978 the necessary space was provided to the contractor and the installation of equipment began. Before yearend 1978, basic work was completed, the power plant was installed in April 1979 and panels were placed in the switchracks. In June 1979, cable runs were modified and the start-up of equipment in the entire network began. Functional testing started in November 1979, whereas preliminary operation commenced on December 12, 1979. Preliminary operation was divided into three stages.

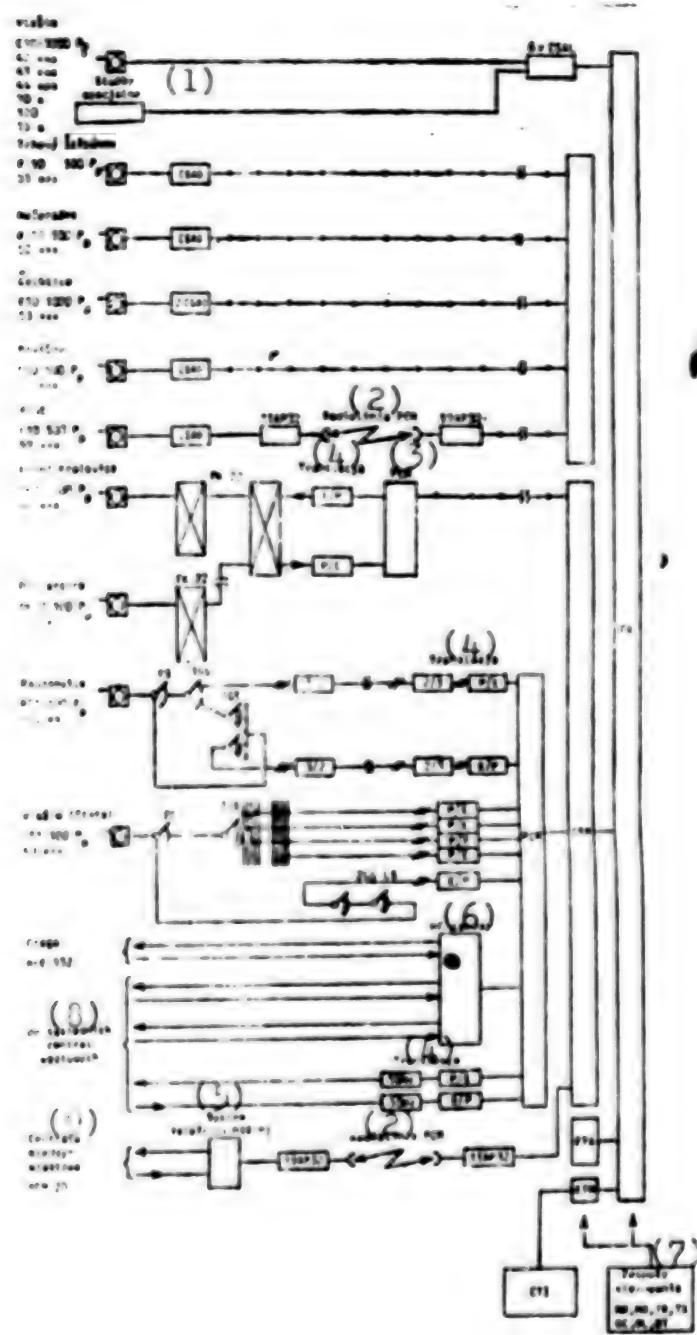


Figure 2. Block Diagram of the Experimental E-10 Network

1. Special services	6. High frequency carrier
2. PCM [pulse-code modulation] radio link	7. Control devices
3. pulse-code modulation	8. Towards adjacent nodal exchanges
4. Repeater	9. long-distance exchange
5. Carrier telephone system	

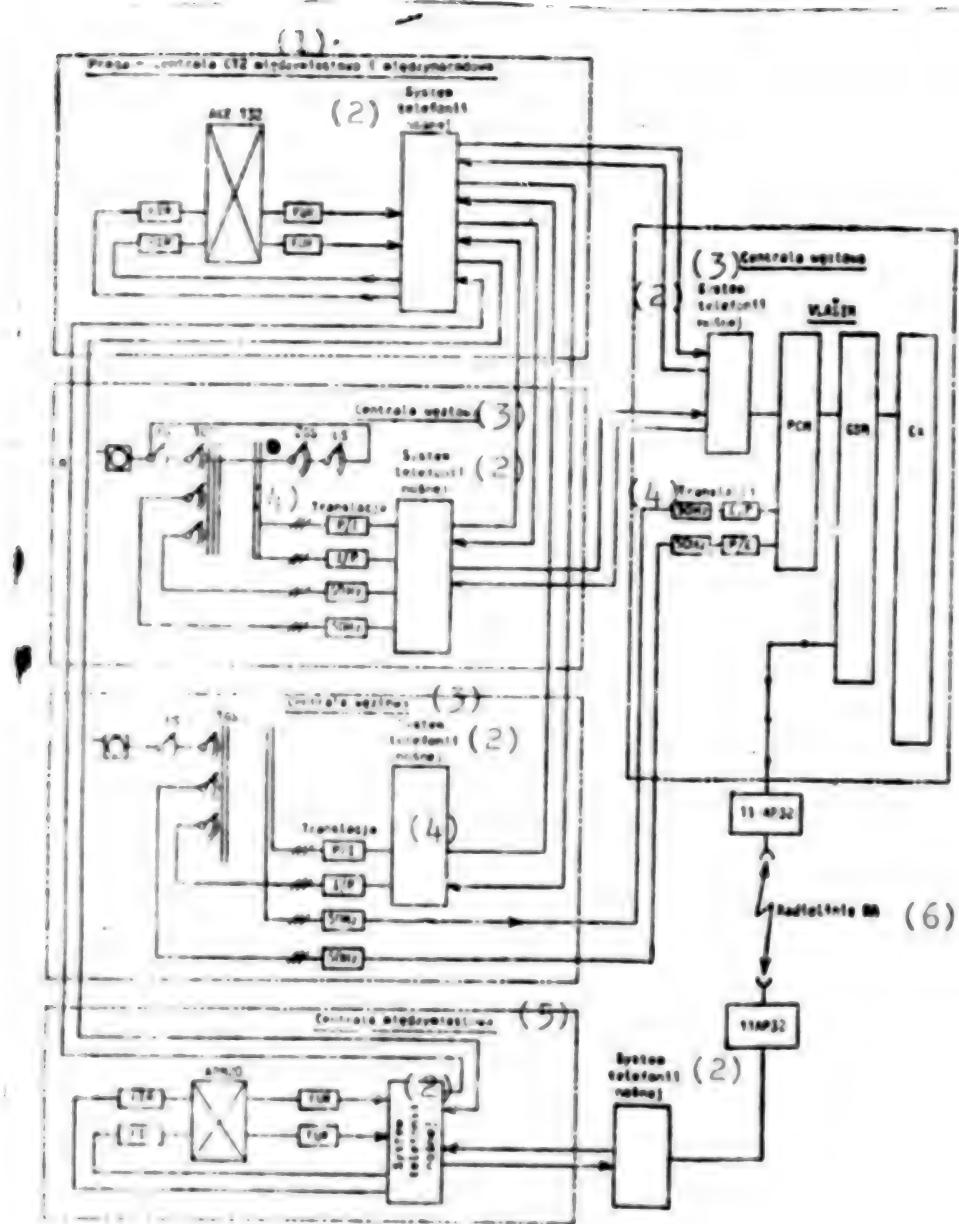


Figure 3. Diagram of Connections in the Experimental E-10 Network.

1. Prague - CT2 long-distance and international exchange.
2. System of carrier telephony
3. Nodal exchange
4. Repeater
5. Long-distance exchange
6. Radio link RM.

The first stage continued for two weeks in December 1979 and was carried out without subscribers. Statistical and functional testing was performed.

Subsequently, between December 27 and 30, 1979, subscribers were connected to the E10 system and preliminary operation with subscribers began. Preliminary operation ceased with the commissioning of the equipment by the Czechoslovak Communications Authority on 31 March 1980.

The third stage lasted from 1 April 1980 until the end of October 1980 with no assistance from the contractor. The maintenance of the system was left entirely to the previously trained local personnel.

During statistical tests carried out in the first stage, a rate of wrong connections of 0.18 percent was attained. For 10,000 calls put through by the SIMAT research device 18 wrong connections were made.

The second stage can be defined as the gradual hook-up of the equipment to the network, start-up of automatic research devices and remedying signalization mistakes. At the end of this stage, the entire system was commissioned for operation.

The third stage lasted six months, during which time the rate of failures and the reliability of equipment were studied. The effect of stabilizing the performance of equipment is presented in the [following] table.

Number of Failures and Service Calls During the Third Stage of Preliminary Operation.

Month	6	7	8	9
Number of maintenance service calls	27	15	12	11
Number of replaced panels	11	11	7	6
Number of failures of CSAD assemblies	5	3	3	1
Number of failures of CSAL assemblies	1	3	1	1
Average time between failures (hours)	25.5	48	62	67.5
Number of replaced processing amplifiers	1	12	2	0

Between 1 June and 31 September 1980, a total of 65 failures occurred in the E10 exchanges. The greatest share of failures was in subscriber panels 18CSA, in the points directly connected with the outside cable network or containing tube relays. Among these points, there are subscriber equipment, links and answering jack field in the concentrator block. A markedly increased incidence of processing amplifiers' failures occurred in summer months, as a rule caused by atmospheric discharges.

Personnel in charge of operation and maintenance were trained in the contractor factories. They were mostly selected from the personnel that previously serviced switching equipment based on the running system. The training lasted for about six months in the Teletra-Poznan factory for those in charge of the E10 system and four months in the Videton-Budapest factory for the personnel of the center of technical servicing (CTI). After 10 months of operation it can be ascertained that the personnel have proved their qualifications. It has turned out that a certain number of personnel service three to four times more equipment than with previous technologies. The assumption of reducing the necessary floor space has also been borne out. In the main exchange in Vlasim floor space requirements are about 25 percent

of those for a comparable second generation exchange, whereas satellite exchanges for 1,000 subscribers could be installed in rooms with floor space of about 25 square meters, including power plant, main distribution frame and other auxilliary equipment.

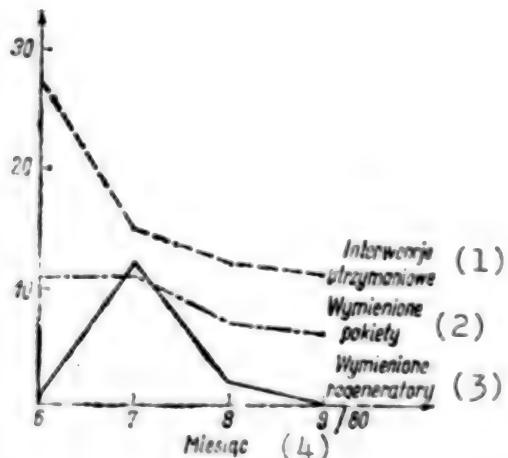


Figure 4. Operating Performance of Experimental E10 Network.

1. Maintenance and service calls.	3. Replaced processing amplifiers.
2. Replaced panels.	4. Month.

Power load of the main exchange in Vlasim is approximately equal to that of a comparable second generation exchange. Unlike the second generation equipment, the load is evenly distributed over the entire day. In satellite exchanges, power load is considerably lower than before and is 8A at 48V for 500 subscribers.

Since the two-circuit operation extended to the limits of local networks, a higher total attenuation was allowed, which enabled the use of cables with a smaller cross-section and, consequently, savings of copper. Attenuation between subscriber entrances is permanent for the entire network and stands at 4.5 dB.

Direct interchange between PCM channels and channel modulators of the analog system was tested in the interchange with analog relay systems, especially in the long-distance network. In these tests, the signalling channel was keyed. Due to this, the previously used relays became unnecessary, because their functions had been taken over by the multiregister MR of the E10 system which controled keying. The transmission chain, of course, must be adjusted for level equalization.

Experience gained in the operation of the CTI technical service center has shown that the concept of the E10 system employing a commercial computer for supervision and communication between the exchange and operation personnel was favorable for the work of the exchange. All testing functions have been studied and are employed, such as, for example, remote measurement of subscriber lines, automatic testing of long-distance links etc.

A weak point has, however, been found in low mechanical endurance of some computer hardware, especially teleprinters.

Another drawback which has been found is caused by the dependence of satellite exchanges' (CSAD assemblies) reliability on the performance of the PCM transmission link. Failure of both paths makes it impossible to complete even an internal call. We think that in the future this drawback will be eliminated through the use of internal repair work.

* * *

The results of preliminary operation of the experimental network in Vlasim can be summarized as follows:

--the entire network was put into operation within 30 months of the signing of the contract;

--the assumption that the necessary floor space will constitute 25 percent of the requirements of previously employed systems has been borne out;

--maintenance requirements have fallen to one-third of the level reckoned with for older systems;

--it has been proven that interchange with multiple telephone (carrier) systems was possible without relays, by keying the signalling channel alone;

--permanent low attenuation (4.5 dB occurs between all entrances into the system;

--in switching within the limits of an integrated exchange, a low rate of wrong connections occurs (below 0.2 percent);

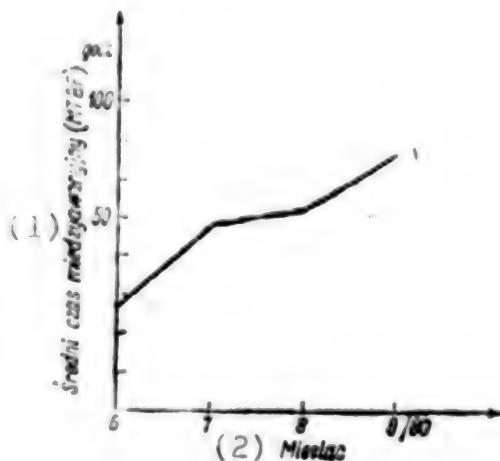


Figure 5. Characteristics of the Average Time Between Failures of the Experimental E-10 Network.

1. Average time between failures

2. Months

--the rate of failures perceptibly decreases all the time, which attests to the stabilization of conditions; however, it has not yet attained the predicted minimum value;

--transmission channels have not yet acquired the required resistance to voltage overload;

--a need has become evident to solve the problem of internal traffic in remote satellite exchanges, when operating the equipment in rural areas.

Nonetheless, it can be generally ascertained that the E10 system meets the requirements made and is feasible for application in the future in the Czechoslovak state network.

9761
CSO: 8341/0146

CZECHOSLOVAKIA

BRIEFS

NEW PROPAGANDA TRANSMITTER SCHEDULED--A new transmitter for broadcast to foreign countries called Zapadni Cechy (West Bohemia) will be built in the Bor area of Tachov district. [Prague SVOBODNE SLOVO in Czech 30 Oct 81 p 4]

CSO: 2400/55

ECUADOR

BRIEFS

INTERNATIONAL COMMUNICATIONS SEMINAR--An international seminar on communications in the North-South dialogue is being held from 10-13 November at the International Center of Higher Journalism Studies for Latin America [CIESPAL]. The seminar is sponsored by the Latin American Social Research Institute, the CIESPAL and the German Friedrich Ebert Foundation. The seminar is analyzing the results of the Cancun summit and the new international information system. [PA121720 Quito Voz de Los Andes in Spanish 1230 GMT 12 Nov 81 PA]

CSO: 5500/2042

EGYPT

BRIEFS

MICROWAVE COMMUNICATIONS SYSTEM--Cairo, 8 Nov (MENA)--It has been decided to set up a nationwide microwave network to provide instant communications between all the centers of the Egyptian armed forces all over Egypt. This network guarantees the secrecy of communications among the armed forces in addition to removing problems arising from faulty cables. In tomorrow's issue, the MAY newspaper says that Egyptian army experts are currently studying the balloon system used by the United States to supervise its borders. The balloons gather information and send it to monitoring centers--similar to earth monitoring stations. The cost of establishing the balloon system is estimated at \$80 million, while the radar equipped E-2C planes, which we will receive from the United States, cost about \$165 million per plane. The four planes for which we have signed a contract are not sufficient to cover our borders. However, if we establish the balloon system in addition to buying these planes, we will have a comprehensive monitoring system which will cover our entire border. [Text] [NC082027 Cairo MENA in Arabic 1952 GMT 8 Nov 81]

CSO: 5500/5001

WESTERN NEWS AGENCIES TO BE 'EVALUATED'

NC161554 Paris AFP in English 1541 GMT 16 Nov 81

[Text] Tehran, 16 Nov (AFP)--The Iranian revolution is currently in a phase of transition between the old order and the new, and authorities are busy sorting out friends from enemies, according to the minister of Islamic guidance, Hojjat Ol-islam 'Abdolmajid Ma'adikhah.

In an interview, Hojjat Ol-islam Ma'adikhah, who is responsible for the press, said today that the state of transition was a sort of "purgatory" in which a review of friends and enemies was taking place.

"The future of news agencies will naturally be spelled out when a new order is established," he said. Agencies would be identified, he said, as "those which reflect reality and those which are tools in the hands of our enemies."

"News agencies, notably Western agencies, have acted in such a way that the people and revolutionary organs do not believe they are really news agencies," he said. Instead, they believe the agencies are a disturbing factor in the world, he added.

The Hojjat Ol-islam accused news agencies of "overrating certain problems," while "under-estimating or neglecting others."

He asked, for example, whether news agencies reported the acts for which executions were ordered "as much as they have blown up the question of executions," or whether they "speak of those who repent."

Iranian revolutionary leader Ayatollah Ruhollah Khomeyni, who yesterday met with the minister, urged those responsible for information to "do their duty" in the face of attacks by foreign radios and newspapers.

CSO: 5500/2043

OMAN

BRIEFS

SOLAR TELEVISION BEGINS TRANSMISSION--Muscat, 15 Nov (WAHH)--It was announced here today that the Sultanate of Oman has established its first solar television transmission station to facilitate television transmission to various areas of the sultanate. The new television transmission will cover ('Abri), in northwest Oman and 200 km from Muscat. [Text] [GP151720 Manama WAHH (GULF NEWS AGENCY) in Arabic 1309 GMT 15 Nov 81]

CSO: 5500/2043

BRIEFS

SATELLITE GROUND STATIONS--By the end of the first quarter of 1982 Qatar will have begun construction of a new satellite ground station which will be linked to a satellite presently above the Atlantic ocean. The new station is just one part of Qatar's plans to expand direct telephone links with the rest of the world. Construction of a third station is planned for 1988. This third station is intended to be linked with the Arab satellite (ARABSAT) and a satellite above the Indian ocean to provide Qatar with telephone connections with the Far East. The second station will provide direct telephone links between Qatar and the United States, Canada and some Latin American countries. Another part of the plan which will also be implemented in the second half of the 1980's is a project to construct a station on the coast to link Qatar with all ships in the area so that aid can be provided as well as weather and navigational data and other services. [Text] [Paris AL-MUSTAQBAL in Arabic No 244, 24 Oct 81 p 67]

CSO: 5500/4705

TELEPHONE NETWORK CONTINUES POOR DESPITE NKUNTUNSE STATION

London WEST AFRICA in English No 3352, 26 Oct 81 p 2542

[Text]

The domestic telephone network in Ghana will continue to be "disrupted" in spite of the new earth station at Nkuntunse, according to Mr. Kwaku Acquah, the Ashanti Regional Director of the Posts and Telecommunications Corporation (P&T). He was replying to a complaint from Mr. S. K. Boafo (MP for Ashanti-Akim) about disruptions in telephone and television services in the Ashanti Region.

Mr. Acquah said that despite the earth satellite station, the telephone and telegraph services to most parts of Ghana would continue to be adversely affected by obsolete machinery which at best could only serve as standby equipment. He said the Electricity Corporation specifically lacked adequate transformers to link the Akosombo electricity grid to connecting stations in other parts of Ghana.

A correspondent writes:
What Mr. Acquah could have said to make things perfectly clear was something like this: Ghana has acquired a very fine earth station

which uses the INTELSAT satellite. All this fine equipment is being used to greatly improve Ghana's communications with the rest of the world, that is external contacts across thousands of miles of land and sea. At present, the system is still operator-controlled where the telephone is concerned. When the switching station is installed at Accra-North, there will be automatic dialling so that Kofi and Efua can call John and Mary (etc.) almost instantaneously. However, the same INTELSAT system could have been used for Ghana's domestic telephone and telegraphic systems, that is if a good number of relay stations were added to the network and if all the obsolete machinery in the exchanges were replaced with modern equipment. Since this was not the case, it is relatively easy now to make an international call from Accra to wherever you please, but not so easy if you want to make the call from Kumasi or even Cape Coast. All the new equipment is to connect Accra with the world; connecting the rest of Ghana to Accra is to follow.

CSO: 5500/5622

TELEPHONE SYSTEM PHASES IN ELECTRONIC EXCHANGES

Johannesburg THE STAR in English 23 Oct 81 p 9

[Text]

The days of gritting your teeth while you wait to get through to a telephone number you have dialled are almost over.

The first fully electronic exchange in South Africa was officially opened by the Prime Minister, Mr P W Botha, in Pretoria today and heralds a new era.

Because electronic exchanges have no moving parts, a call will connect the moment that the last digit is dialled.

The Pretoria exchange is the first of a series to be supplied to the Post Office under a 15-year contract.

The equipment is imported and the extensions planned for installation until 1983 are already being manufactured in Boksburg.

About R30-million will be invested in the venture, which will not only provide South Africa with one of the most modern

telephone exchange systems in the world, but will completely revitalise the country's electronic components industry.

The main exchange has been installed in the central exchange building in Pretoria and will have an eventual capacity of up to 30 000 subscribers who may be connected either at the main exchange or at a number of satellite exchanges.

Two of these have been housed in existing Post Office buildings in Roslyn and Lynnwood Glen, while others are installed in transportable containers that will be sited at Mamelodi East, Mamelodi West, Saulsville, Eersterust and Attridgeville.

The second electronic exchange is now being installed and tested at Sunninghill Park on the Witwatersrand. The first of its kind in the world, it will be opened on November 4. Another 20 electronic exchanges will come into operation in the next two years.

It is estimated South Africa's telephone system will be fully electronic by the end of the century.

CSO: 5500/5620

SOUTH AFRICA

DIGITAL PHONE SYSTEM OPENS 'NEW AVENUES'

Johannesburg RAND DAILY MAIL in English 5 Nov 81 p 5

[Article by Bev Mortimer]

[Text]

THE introduction of digital electronic exchanges by the Post Office will lead to the establishment of an electronic industry of great strategic value, the Minister of Post and Telegraphs, Mr Hennie Smit, said yesterday.

Mr Smit was officially opening the second fully electronic exchange in South Africa yesterday.

The exchange — also known as a digital exchange — has been installed in Sunninghill Park, Sandton, by Siemens Limited, of Germany, and is similar to the one in Pretoria.

Except for these two exchanges, all others in the country were of the electro-mechanical type. But it was planned to install another 20 electronic exchanges in the most important metropolitan areas of the country next year, Mr Smit said.

Although the present electro-mechanical exchanges rendered good service, it had been obvious for some time that a major change would have to be introduced.

"Because of the mechanical nature of these exchanges their maintenance was labour intensive and high reliability could only be achieved by continuous lubrication, adjustment and overhaul..." Mr Smit said.

He outlined the advantages of the new fully electronic exchange over the old exchange:

- They had no mechanical moving parts that needed lubrication;

Reduced

- The time and labour required for installation work was greatly reduced;
- The floor space required was 40% less;
- They were about 30% less expensive;
- Local calls could be set up instantly;
- Ultimately malicious calls could be traced;
- They will allow the addition of sophisticated facilities such as alarm clock service;
- They will allow the Post Office to automate the operation and administration of the telephone service;
- Ultimately a better speech quality will be obtained;
- They will lead to the establishment of an electronic industry of strategic value.

CSO: 5500/5623

SOUTH AFRICA

BRIEFS

FIRST GERMAN EWSD EXCHANGE--The first German EWSD fully-electronic exchange in the world will be commissioned in South Africa on Wednesday. The exchange at Sunninghill Park, Johannesburg, will be put to use even before similar exchanges in Germany. If all goes according to schedule, another 20 fully electronic exchanges will come into operation during 1982/83 and estimates are that South Africa's telephone system will be fully electronic by the end of the century. [Text] [Johannesburg THE STAR in English 2 Nov 81 p 7]

CSO: 5500/5623

FINLAND TO JOIN SWEDEN IN TELE-X STUDY

Helsinki HELSINGIN SANOMAT in Finnish 21 Oct 81 p 8

[Text] Finland will join Sweden in the Tele-X satellite study. The decision was made by the government ministerial committee on economic policy on Tuesday [20 October]. Norway had made the same decision already earlier, and Denmark is expected to join soon.

The decision by the government involves only Finnish participation in the study of the enterprise. Only after the study has been concluded will a decision be made on whether to join or not.

Participation in the study will not produce direct expenses for Finland, but it does assume that certain other studies will be undertaken. These will cost approximately Fmk 2.5-3 million, and they will be paid by the Ministry of Trade and Industry from their target research funds.

Tele-X to Transmit Computer Information

According to the ministerial committee on economic policy, Finland's primary goal is to find out how Finnish industry could participate in the satellite venture and what the forms of participation would be.

The Swedes intend to use the Tele-X satellite to improve the standards of space industry. The satellite is for experimental operations and is to be used primarily for transfer of data.

The satellite, in other words, will primarily serve in telecommunications, that is, in telegraphic, telephone and computer connections. In addition to this, two to three television channels could be connected with the satellite.

Although the Tele-X satellite is primarily meant for industrial users, the TV channels could also be made available for Nordsat in the event this cooperation will be assumed. Discussions on Nordsat will be continued in November in the Nordic Ministerial Committee.

The Swedes have not planned the new satellite as a substitute for Nordsat, but they have implied that the Tele-X satellite will be necessary in case a positive decision is made on Nordsat.

Preliminary price estimates by the Swedes are set between Fmk 640 and 720 million. According to the present plans, the satellite would be launched as late as 1986.

Sweden and Finland plan to continue discussions on the satellite during the present month. They were originally started last spring.

The Swedes say the satellite negotiations should be revved up, since they intend to present the matter to the Parliament for a decision in May 1982.

Finland Likely to Pay 10 Percent

The negotiations between Finland and Sweden have also dealt with the matter of the division of the expenses in case the satellite cooperation is undertaken.

It was agreed from the beginning that the expenses will not be divided according to the basis normally used in Nordic cooperation.

Finns also regarded the original proposal by the Swedes of 20 percent to be too high, because it would have meant, on the present price level, a bill of Fmk 130-145 million.

Sweden later accepted the Finnish proposal of 10 percent, which means that the Finnish 5-year bill will be Fmk 65-72.5 million.

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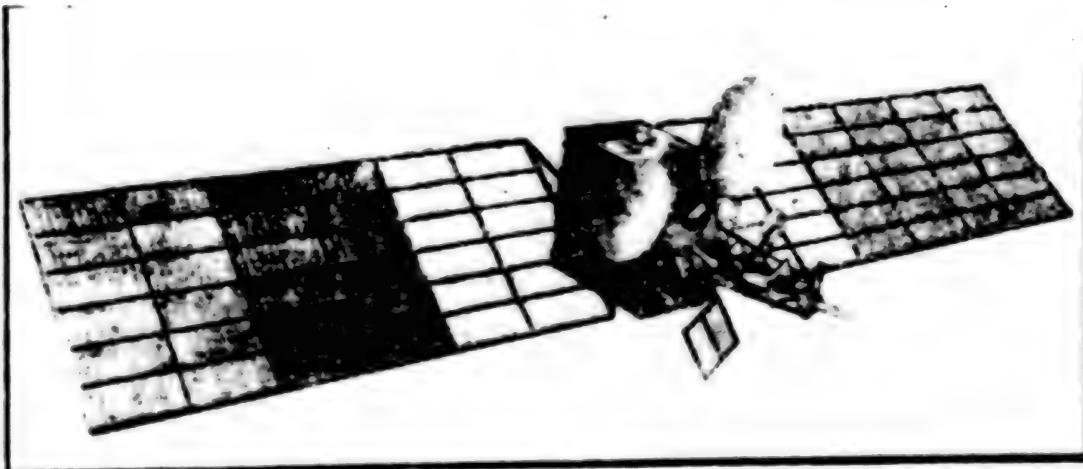
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NORWAY, FINLAND SEEN READY TO AID SWEDEN IN TELE-X PLAN

Stockholm DAGENS NYHETER in Swedish 28 Oct 81 p 8

[Report by Olle Rossander: "Another 30 Million Kronor for Nordic Tele-X"]

[Text] A massive investment in a Nordic telecommunications satellite--Tele-X--and new rules so that the public sector will be better able to favor Swedish industry when orders are placed.



After the harsh criticism in recent months of big Swedish orders' being placed abroad, Nils G. Åsling, minister of industry, is ready to take measures.

Most recently LM Ericsson lost a big defense order and ASEA [Swedish General Electric Company] lost a big Vattenfall [Swedish state power authority] order. In both cases American concerns were able to offer lower prices than the Swedish firms.

Protection of Free Trade

The contract regulations provide that the state, municipalities, and county administrations must buy goods where they are cheapest, if the quality, etc., are the same.

The contract regulations are for the purpose of protecting the taxpayers and free trade.

"How the proposal will look I cannot say, but it will be possible, for example, to arrange public contracts better so as to favor Swedish industry," said Nils Åsling.

"It is important to support industry especially when it is a matter of giving Swedish industry a chance to develop new technology," Minister Åsling said.

30 Mil'ion Kronor

At the press conference the minister of industry also announced that Norway and Finland, but not Denmark, are prepared to put up jointly perhaps 15 to 20 percent of the development costs for the telecommunications satellite Tele-X.

The government has also decided to give another 30 million kronor for continued development and planning for Sweden's taking its place among the satellite countries.

Tele-X, which cannot be launched before 1986 at the earliest, is estimated to cost a total of 800 million kronor, and can be used by the Nordic telecommunications and TV companies both for data transmission and for TV broadcasting over the Nordic area.

The satellite will also be used for research.

Minister Åsling emphasized at the press conference that the government certainly supports research and development in fields where Swedish industry can bring home big export orders in the future.

"It has been questioned whether we are investing right and it has been said that we only invest in money-losing traditional industry. That is wrong," said Nils Åsling after the decision to allot 30 million kronor to the state Space Corporation for continued work with the Tele-X. "We are systematically working to build up both a home market and export opportunities for our electronics industry."

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CSO: 5500/2030

INTERNATIONAL AFFAIRS

BRIEFS

NORDIC MOBILE PHONE SYSTEM--The Nordic automatic mobile telephone system is almost ready for use. The Lahti mobile telephone exchange will be tested during November, and in December the NMT system will be opened for test use. The system is going to be made available for general use in late February or early March, concurrently in all the Nordic countries. The customers can then connect from their cars with any telephone number in the Nordic area. In Finland, the system will cover about 10 support stations by the beginning of March. The network will first extend to as far north as Tampere, but already by 1986, all the way up to Rovaniemi. The grade of service of the manually operated system will not suffer from the automatic system since this system is completely new. It is expected that mobile telephone traffic in Helsinki and Uusimaa will improve. From the beginning of next year, the fee for connecting to the manual and automatic mobile telephone system will be Pmk 90. In addition, the users of the manual system will pay a monthly fee of Pmk 30 and those of the automatic system a fee of Pmk 120. [Text] [Helsinki HELSINGIN SANOMAT in Finnish 21 Oct 1981 p 6] 9571

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FEDERAL REPUBLIC OF GERMANY

GSCHEIDLE ON LARGE-SCALE USE OF BROAD-BAND COMMUNICATION

Duesseldorf WIRTSCHAFTSWOCHE in German 9 Oct 81 pp 114, 116

Interview with Federal Post and Telecommunication Minister Kurt Gscheidle

Text The Federal German Post Office intends to press ahead with telecommunications by way of a DM74 billion program to be carried out in the coming years. Business will be the principal beneficiary. "In 30-40 years" at the earliest, thinks Federal Post and Telecommunications Minister Kurt Gscheidle (SPD) will private homes also be fully linked by cable. The WIRTSCHAFTSWOCHE talked with the minister.

WIRTSCHAFTSWOCHE: Minister, last May you fired the starting pistol for Bigfon. This pilot project will enable more than 300 parties to conduct conference calls by means of glass fiber, to receive radio and TV transmissions and transmit data and drawings. Some 70 of these parties will also be able to conduct television-telephone conversations. Have you any definite ideas when and in what stages this broad-band communication will be available for mass application?

Gscheidle: The basic decision on the general use of glass fibers is to be made in the coming months, so that industry may be able to gear up in good time for later mass production. The basic decision will also spell out the technical and economic development targets. Once these have been achieved, the post office will be able to begin with the standard construction of a glass fiber telecommunication network from 1986 on and the introduction of the television-telephone in 1990.

WIRTSCHAFTSWOCHE: To what extent will that be realized?

Gscheidle: If I were to give you any definite propositions now, they would amount to no more than the predictions of a soothsayer looking in a crystal ball. As regards Bigfon, we are now able to exactly describe only the test stage. The subsequent standard use of glass fiber technology will be determined on the one hand by its technical maturity and its cost compared with traditional techniques, on the other mainly by the demand for broad-band communication services. At the present time, for example, we do not know how much interest there will be a few years hence in the television-telephone and video conferences, although we have some indications that interest will be considerable.

WIRTSCHAFTSWOCHE: Is it no more than wishful thinking for industry to believe that the commercial use of broad-band networks will be possible--at least in industrial conurbations--from 1985 on? Would you subscribe to that belief?

Gscheidle: 1985 is a very early date for the realization of such far reaching wishes. Still, I assume that we will be able to make available the necessary services in case of actual need, for example ultra rapid data transmission.

WIRTSCHAFTSWOCHE: Is it really possible to forecast the total of investments needed for the sector of telecommunications?

Gscheidle: We are always able only to start with the current plans--long-range plans are beset by many uncertainties. According to our present status of knowledge we will spend DM33.8 billion for the telephone sector alone--local and long-distance calls--including the cost of cables; DM74 billion have been earmarked for the next 10 years.

WIRTSCHAFTSWOCHE: Why is it such a problem for your agency to talk in definite terms about the future of broad-band communications? The technologies to be used by the future networks are already known.

Gscheidle: You are right insofar as the technology of the respective end devices is known. However, every breakdown now occurring in communication and data systems is caused by our failure even at this time to control the software in the various networks, including the respective technology. The proposed integration of all networks in a glass fiber network for Bigfon raises additional problems, and we are not yet able to say that these will definitely be settled in a few years time. Moreover it will be necessary to develop a new generation of technologies and, by international standardization, provide the prerequisites for pushing ahead with total worldwide integration.

WIRTSCHAFTSWOCHE: In other words the euphoria in matters telecommunication and office of the future is quite premature?

Gscheidle: I do not mean to say that. I merely want to suggest that great efforts will be necessary to actually keep to the timetable. You must not forget that not only experiments like Bigfon are very important. A great deal of importance must also be assigned the communication networks being constructed in some developing countries. By comparison with the industrial nations these countries have the advantage of not being compelled piece by piece to replace the existing networks. Advised by the industrial countries they are able directly to employ the new technologies.

WIRTSCHAFTSWOCHE: To return to standardization and general integration. In how far is that a matter for industry, and where does the post office take up the challenge?

Gscheidle: The task of determining communication standards is in the scope of the post office. Aiming to obtain internationally acceptable and usable standards, the Federal German Post Office accomplishes this task in cooperation with the post offices of other countries. Of course that does not happen without the involvement of industry.

WIRTSCHAFTSWOCHE: And yet you obviously do not expect the realization of the oft heard catchword "total cable systems."

Gscheidle: We must draw a dividing line. If this catchword implies such items as are represented in illustrated journals as "command posts in every home," I do not believe in it. If for no other reason than the enormous costs involved it will take 30-40 years before every home has its own glass fiber connection. And even then we will have to ask whether the--theoretically feasible--total communications will in fact be either wanted or accepted by the public.

WIRTSCHAFTSWOCHE: What, then, do you believe?

Gscheidle: The following is my own personal opinion: The private consumer will surely be quite satisfied initially to receive his television programs with the highest possible picture quality, and to possibly obtain additional services. In private homes the television-telephone will certainly assume importance later than in business. Business will probably be the first to largely profit from broad-band individual communications--provided the problems and difficulties described have been ironed out.

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MINISTER FORESEES FURTHER EXPANSION OF SHORT-RANGE RADIO

Stockholm SVENSKA DAGBLADET in Swedish 11 Oct 81 p 6

[Report by Björn F. Hansen]

[Text] "I stand firm in my intention to present a bill on short-range radio in the spring," says Jan-Erik Wikström, the minister of education. He is also counting on it that several places in the country will have short-range radio the last half of 1982.

Many of the authorities concerned insist that the decision on short-range radio should wait until the current experiments in local radio administration have been carried out. "No great importance can be attributed to that point of view unless short-range radio and local radio broadcasts are mutually exclusive. In my opinion they are not," says Jan-Erik Wikström.

Does short-range radio need ethical rules? Opinions on that point differed widely when the short-range radio organizations in the country started a national meeting Friday in Stockholm.

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The short-range radio committee with Karl-Eric Norrby, M.P. (C [Center Party]) as chairman thinks rules are needed. There have been many complaints about transmissions with "reiterated racist phrases," etc., but no proceedings have been instituted on any of them by the attorney general. Since the law now allows such broad freedom of expression, the committee insists that rules are needed.

"No rules are needed! We already have our own morals and our own rules," Mirjam Knudzon, of Smyrna Parish, Göteborg, objected. On the other hand, she would like a tightening up of the law to provide better protection for the integrity of the individual.

Attorney General Bengt O. Hamdahl had been invited to the conference.

"A requirement of impartiality and objectivity cannot be set for the short-range radio," he said.

"But it appears obvious to me that the short-range radio, like the press, should engage in self-policing," he continued. A system of rules is needed, but we must

be careful not to stray into the field of infringing the freedom of the press."

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"The rules that the short-range radio has must be supplemented. For one thing, the prohibition against advertising is inadequate," said Lars Bergman, director of the radio board. "Since the experimental program started, the short-range radio committee has been compelled to intervene a dozen times or so against advertising plugs in the transmissions."

The short-range radio associations are to take a position during the conference on a proposal to create a national organization. According to Olle Palmborg, secretary of the committee, the organization would have three main objectives: to be the central organization for the local associations, to adopt ethical rules and maintain respect for them, and to be the negotiating party with STIM [expansion unknown].

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TELECOMMUNICATIONS AGENCY CHIEF DEFENDS POLICIES

Stockholm DAGENS NYHETER in Swedish 14 Oct 81 p 10

[Report of interview with Tony Hagström by Kerstin Käll]

[Text] "The telecommunications agency actually has a serious ambition to keep its official and business rôles separate. That task has been performed satisfactorily up to now. The consumers have not been suffering. And nobody has ever been able to point out any case of abuse."

Tony Hagström, director general of the telecommunications agency, today answers the recent attacks on the agency in its double rôle as the agency which gives official approval and as a competitor of private firms.

The LKD [National Office Equipment and Computer?] association, which represents 85 firms in the office equipment and computer industry, has approached the government to discuss the double rôle. The mobile radio firm Comvik has applied both to the free-trade grievance officer (NO) and to the government to get help against what was viewed as an effort on the part of the telecommunications agency to establish a monopoly.

Dumping

The NO also has a case pending with a firm that considers that the agency "dumps" its telephone equipment at low prices to the detriment of the competitors.

What most disturbs the computer firms is the secrecy of the telecommunications agency's tests. The same technicians who develop the telecommunications agency's own equipment test the private competitors' secret prototypes.

Tony Hagström considers the concern unjustified.

"To guarantee objectivity we have taken certain measures in accordance with decisions of the Riksdag," he says. "We have set up a special unit with responsibility for testing and approving privately owned equipment. Decisions of that unit can be appealed to a special board that is made up of two representatives of the telecommunications agency and three appointed by the government."

But that is just an administrative board, the computer firms object. The actual testing is still done by technicians in the central laboratory of the telecommunications agency.

Secrecy

"If there is any supplier who is extra scared, we can apply special secrecy rules that prevent information from getting to the part of the telecommunications agency that is working with the same thing," Tony Hagström states.

LKD feels that the testing should be done by the State Testing Establishment, in accordance with a government bill of 1978 which says that the regulatory authority should not be simultaneously the national testing place.

"Last year the Riksdag decided with great unanimity that for economic and technical reasons it should be the telecommunications agency that does the testing," Tony Hagström points out. "It is only at the telecommunications agency and L.M. Ericsson that the telecommunications knowledge is to be found."

The State Testing Establishment has said that it can do the testing if it is possible to formulate the requirements set for a piece of equipment.

"I do not believe that," says the director general. "The technology that the telecommunications net is built out of has been introduced gradually over the last 50 years. Tests against the net require very extensive knowledge."

Needs Jobs

"Besides," Hagström adds, "it must be borne in mind that the State Testing Establishment has had economic problems since the move to Borås, and needs jobs..."

The West German telecommunications agency has conferred with private suppliers of telefax and teletex, for example, before the introduction [of the equipment]. In Sweden, according to LKD, the telecommunications agency has changed its earlier policy of consultation, and now decisions are made without contacts with the private firms concerned.

"Wrong," says Tony Hagström. "We have regular contacts with [the Ministry of?] Industry's telecommunications committee, which represents the customers. When it comes to the suppliers, it is obvious that you cannot talk in advance about what you are thinking of bringing out. You have to play by the rules of competition."

The fact that the private competitors were kept out of the teletex system for a year and a half and have since been let in through a special "filter" he justifies by concern for the net.

He says that there is no corresponding "filter" in any other country, but that it has awakened interest in the FRG, and subscribers with private equipment can get into the telecommunication agency's directory if they are prepared to share the costs.

"We cannot pay for our competitors' advertising," he says.

We asked Tony Hagström whether he sees any disadvantages in the telecommunications agency's double rôle. The attacks from private companies are probably increasing with the rapid spread of computer technology.

"When new markets with a lot of money open up to be served, various interests naturally want to get in and get a slice of the pie," he says. "You have to expect a squabble now and then, but you have to take it.

"The decision that the Riksdag made last year on drawing a line within the agency was a good decision, as I think we shall prove.

"That the suppliers go back to the government strikes me as a little odd. It may be regarded as a new try with a new government."

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